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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,379	07/29/2003	Junji Okada	116692	4321

25944 7590 07/26/2005

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EXAMINER

WONG, TINA MEI SENG

ART UNIT PAPER NUMBER

2874

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/628,379	OKADA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Tina M. Wong	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 July 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12,13,18,19,24,25,30 and 31 is/are allowed.
- 6) ☒ Claim(s) 1-11,14-17,20-23 and 26-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

This Office action is responsive to applicant's communication filed on 11 July 2005. Corrections of the minor informalities are noted by the Examiner.

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 5, 8, 11, 14, 17, 20, 23, 26 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,856,735 to Chang et al. Chang et al discloses an assembly comprising optical elements, a substrate and embedded waveguides where the waveguides are doped silica embedded in undoped silica. (Figure 1)

But Chang et al fails to disclose the relationships of the properties between the lightguides and the substrate. However, the substrate and the lightguides are both made of silica. Since both elements are the same material, the properties of the elements would have the same relationship. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have the same relationship of properties between the lightguides and the substrate since they are both made of the same base material, silica.

Claims 3, 9, 15, 21 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,856,735 to Chang et al. Chang et al discloses all discussed above but fails to disclose the optical elements to be held in a package and arranged on the substrate. However, Figures 7a and 7b show the waveguide tap coupler

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to be combined with other waveguide elements to construct a waveguide device. Chang et al further discloses any suitable element may be formed with the tap coupler to form a single waveguide multipurpose device. Since Chang et al discloses the tap coupler to be used for multiple purposes and Figures 7a and 7b show the elements in a single waveguide chip, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have placed the optical elements on a substrate and held in a package.

Claims 4, 10, 16, 22 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,856,735 to Chang et al. Chang et al discloses all discussed above but fails to disclose the package to be in the form of a connector is plug. However, Chang et al discloses a demultiplexer and a tap coupler to be formed on the package. Furthermore, since the demultiplexer and tap coupler both have an input and an output, another optical element can be connected to them, thereby allowing the demultiplexer and the coupler to be used as a connector. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have been able to use the waveguide chip that has a demultiplexer and coupler formed on it as an optical connector.

*Allowable Subject Matter*

Claims 12, 13, 18, 19, 24, 25, 30 and 31 are allowed. Previously objected claims 12, 13, 18, 19, 24, 25, 30 and 31 have been rewritten in independent form to include all of the limitations of the base claim and any intervening claims and is now in conditions for allowance.

Claim 6 is allowed. Previously objected claim 6 has been rewritten in independent form to include to limitations of the base claim, but have not been rewritten to include the limitations of intervening claim 2. However, the prior art fails to disclose or reasonably suggest an optical transmission device with a lightguide each having a light incidence/emission section, a substrate which fixes the lightguide, optical elements arranged on the substrate to match the light incidence /emission sections, where the lightguide and the substrate are substantially equal in coefficient of linear expansion and in a rate of dimensional variation due to water absorption and further disclose or reasonably suggest the lightguides having plural step portions at one end and a vertical face with a reflecting section or diffusing section at the other end.

Claim 7 is allowed. Previously objected claim 7 has been rewritten in independent form to include to limitations of the base claim, but have not been rewritten to include the limitations of intervening claim 2. However, the prior art fails to disclose or reasonably suggest an optical transmission device with a lightguide each having a light incidence/emission section, a substrate which fixes the lightguide, optical elements arranged on the substrate to match the light incidence /emission sections, where the lightguide and the substrate are substantially equal in coefficient of linear expansion and in a rate of dimensional variation due to water absorption and further disclose or

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reasonably suggest the lightguides having plural step portions at one end and a vertical face at the other end and an askew face each for altering a direction of optical signals at both ends.

### ***Response to Arguments***

Applicant's arguments filed 11 July 2005 have been fully considered but they are not persuasive. Applicant argues that doped and undoped silica are the same material. However, the Examiner disagrees. Although the two materials have the same base material, silica, by doping one material and not the other, the materials are no longer the same material. They become different material with the same base material.

Applicant further argues Chang et al fails to disclose the relationships between the properties of the different materials. However, although Chang et al discloses the same base material for the lightguide and the substrate, the materials are not the same. However, since they both have the same base material, the materials would have similar properties and therefore, the variation in the materials would cause a difference in the relationship between the properties of the different materials.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

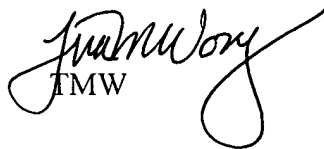
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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tina M. Wong whose telephone number is (571) 272-2352. The examiner can normally be reached on Monday-Friday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



TMW



MICHELLE CONNELLY-CUSHWA  
PRIMARY EXAMINER